

ABSTRACT OF THE DISCLOSURE

An overall petroleum reservoir production optimization methodology permits the identification and remediation of unstimulated, under-stimulated, or simply poorly performing reservoir completed intervals in a multilayer commingled reservoir that can be recompleted using any of various recompletion methods (including but not limited to hydraulic fracturing, acidization, re-perforation, or drilling of one or more lateral drain holes) to improve the productivity of the well. This provides an excellent reservoir management tool and includes the overall analysis and remediation methodology that has been developed for commingled reservoirs. The specialized recompletion techniques can be used to improve the productivity of previously completed individual reservoir intervals in a commingled reservoir.